



PRODUCTIVITY **Q**UALITY INC

Principle of ultrasonic thickness testing by Phase II+

The use of Ultrasonic non-destructive testing (NDT) to check material properties such as thickness measurement, is now extensively used in all facets of industry. The ability to gauge thickness measurement without requiring access to both sides of the test piece, offers this technology a multitude of possible applications. Metals, plastics, ceramics, glass and other materials can easily be measured by portable ultrasonic thickness gauges with a common accuracy of .001”.

Ultrasonic thickness gauges measure the thickness of a part by measuring the time sound travels from the transducer through the material to the back end of a part, and then measures the time of reflection back to the transducer. The gauge then calculates the thickness based on the velocity of sound through the material being tested.

A broad variety of piezoelectric transducers, operating at given frequencies are utilized to generate sound when excited. Typically, a 5mhz frequency is standard on all Phase II Ultrasonic Thickness Gauges. Optional transducers are always available for a myriad of applications.

The direct contact method of pulse/echo type ultrasonic thickness gauges requires use of a couplant. Propylene Glycol is common, but many other substances can be used.

Easy to configure and use, many gauges today have the ability to retain memory, output to printers, PC's, and handheld portable devices. With the combination of an easy menu driven gauge and the data in memory, technician/operators have a world of technology at their fingertips to obtain highly accurate and cost effective measurements for all types of thickness applications.